

ABSTRACT

A system (100) and method for providing high capacity voice and high speed data communication between user equipment terminals (UEs 104) and a public network (108). Generally, the system (100) includes a community Wireless Local Area Network (WLAN 102) having a centralized base transceiver station (CBTS 114) coupled to a public network (108), and several remote transceiver stations (RTSs 118) each coupled to several UEs (104), and, via a radio link, to the CBTS. In one embodiment, the CBTS (114) and RTSs (118) include a Global Systems for Mobile communication/General Packet Radio Service (GSM/GPRS) transceiver (148, 154) to provide data communication, and a WLAN transceiver (150, 156) to provide voice communication. Preferably, the WLAN transceiver (150, 156) is compatible with an open standard, such as IEEE 802.11. More preferably, the CBTS (114) and RTSs (118) include frequency converters (152, 158), to up-convert a frequency of signals generated in at least one of the transceivers to couple the CBTS to the RTS via a signal at a frequency above standard GSM frequencies.